

Substitute Form PTO-1449 (Rev. 10-01)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-011001	Application No. 10/724,015
Information Disclosure Statement by Applicant (See several sheets if necessary) AUG 31 2005 PATENT & TRADEMARK OFFICE		Applicant Alexei A. Erchak	
		Filing Date November 26, 2003	Group Art Unit 2879

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
<i>ME</i>	AA	5,132,751	July 21, 1992	Shibata, et al.			
	AB						
	AC						
	AD						
	AE						
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	AK						

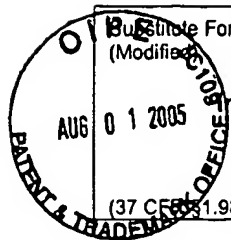
Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AL							
	AM							
	AN							
	AO							
	AP							

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
<i>ME</i>	AQ	A. Köck et al., "Novel surface emitting GaAs/AlGaAs laser diodes based on surface mode emission," Appl. Phys. Lett. 63 (9), 30 August 1993, pages 1164-1166
<i>ME</i>	AR	A. Köck et al., "Strongly directional emission from AlGaAs/GaAs light-emitting diodes," Appl. Phys. Lett. 57 (22), 26 November 1990, pages 2327-2329
	AS	
	AT	

Examiner Signature <i>[Signature]</i>	Date Considered <i>9/12/05</i>
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	


 Substitute Form PTO-1449
 (Modified)

 U.S. Department of Commerce
 Patent and Trademark Office

 Attorney's Docket No.
 16459-011001

 Application No.
 10/724,015

**Information Disclosure Statement
 by Applicant**

(Use several sheets if necessary)

(37 CFR 1.98(b))

 Applicant
 Alexei A. Erchak

 Filing Date
 November 26, 2003

 Group Art Unit
 2879

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
<i>W</i>	AA	5,126,231	June 30, 1992	Levy			
	AB	6,778,746	August 17, 2004	Charlton, et al.			
	AC	6,742,907	June 1, 2004	Funamoto, et al.			
	AD	2004/0110856	June 10, 2004	Young, Jung Gun et al.			
	AE	2004/0144985	July 29, 2004	Zhang, Zhibo, et al.			
	AF	2004/0207310	October 21, 2004	Erchak et al.			
	AG	2004/0207319	October 21, 2004	Erchak et al.			
	AH	2004/0207323	October 21, 2004	Erchak et al.			
	AI	2004-0206962	October 21, 2004	Erchak et al.			
	AJ	2004-0206971	October 21, 2004	Erchak et al.			
	AK	2004-0207320	October 21, 2004	Erchak			
	AL	2004-0259279	December 23, 2004	Erchak et al.			
	AM	2004-0259285	December 23, 2004	Erchak et al.			
	AN	2005/0051785	March 10, 2005	Erchak et al.			
	AO	2005/0051787	March 10, 2005	Erchak et al.			
	AP	2005/0087757	April 28, 2005	Erchak et al.			
	AQ	2005-0040424	February 24, 2005	Erchak et al.			
	AR	2005-0059178	March 17, 2005	Erchak et al.			
	AS	2005-0059179	March 17, 2005	Erchak et al.			
	AT	2005-0087754	April 28, 2005	Erchak			
	AU	2005-0127375	June 16, 2005	Erchak et al.			
	AV	3,293,513	August 8, 1962	J.R. Biard et al.			
	AW	3,922,706	November 25, 1975	Kaiser			
	AX	4,864,370	September 5, 1989	Gaw et al.			
	AY	5,126,231	June 30, 1992	Levy			
	AZ	6,071,795	06/06/00	Cheung et al.			

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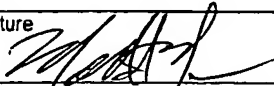
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Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-011001	Application No. 10/724,015
	Applicant Alexei A. Erchak		
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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
<i>JK</i>	AAA	6,778,746	August 17, 2004	Charlton, et al.			
<i>AV</i>	ABB	6,849,558	February 1, 2005	Schaper			
<i>AV</i>	ACC	6,307,218	October 23, 2001	Steigerwald et al.			
<i>AB</i>	ADD	5,600,483	February, 1997	Fan et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AEE							
	AFF							
	AGG							
	AHH							
	AII							

Other Documents (include Author, Title, Date, and Place of Publication)		
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	AKK	
	ALL	
	AMM	

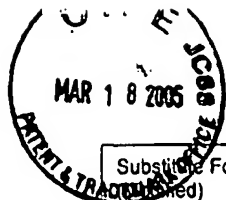
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Substitute Form PTO-1449 (Unmodified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-011001	Application No. 10/724,015
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Alexei A. Erchak	
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U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
<i>MA</i>	AA	6,831,302	12/14/04	Erchack et al.			
	AB	6,504,180	1/7/03	Heremans, et al.			
	AC	6,690,268	2/10/04	Schofield, et al.			
	AD	6,642,618	11/4/03	Yagi, et al.			
	AE	6,784,027	8/31/04	Streubel, et al.			
	AF	6,847,057	1/25/05	Gardner, et al.			
	AG	6,072,628	6/6/00	Sarayedine			
	AH	6,122,103	9/19/00	Perkins, et al.			
	AI	6,288,840	9/11/01	Perkins, et al.			
	AJ	6,574,383	6/3/03	Erchak, et al.			
	AK	6,504,180	1/7/03	Heremans, et al.			
	AL	6,690,268	2/10/04	Schofield, et al.			
	AM	5,162,878	11/10/92	Sasagawa, et al.			
	AN	6,828,597	12/07/04	Wegleiter, et al.			
	AO	5,814,839	9/29/98	Hosoba			
	AP	5,491,350	2/13/96	Unno, et al.			
	AQ	6,303,405	10/16/01	Yoshida, et al.			
	AR	2002/0110172	8/15/02	Hasnain, Ghulam, et al.			
	AS	6,222,207	4/24/01	Carter-Coman, et al.			
	AT	6,593,160	7/15/03	Carter-Coman, et al.			
	AU	6,573,537	6/3/03	Steigerwald, et al.			
	AV	6,465,808	10/15/02	Lin			
	AW	2003-0143772	7/31/03	Chen, Tzer-Perng			
	AX	6,762,069	7/13/04	Huang, et al.			
	AY	6,649,437	11/18/03	Yang, et al.			
	AZ	6,740,906	5/25/04	Slater, Jr., et al.			
<i>✓</i>	AAA	6,791,119	9/14/04	Slater, Jr., et al.			

Examiner Signature <i>MA</i>	Date Considered <i>9/12/05</i>
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Substitute Form PTO-1449 (Pre-2003 version)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-011001	Application No. 10/724,015
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Alexei A. Erchak	
		Filing Date November 26, 2003	Group Art Unit 2879

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
<i>ME</i>	ABB	6,794,684	9/21/04	Slater, Jr., et al.			
<i>J</i>	ACC	6,825,502	11/30/04	Okazaki, et al.			
<i>J</i>	ADD	2004-0182914	9/23/04	Venugopalan, Hari S.			
<i>J</i>	AEE	2005-0019971	1/27/05	Slater, David B. Jr.			

Foreign Patent Documents or Published Foreign Patent Applications

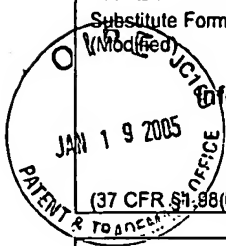
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
<i>ME</i>	AFF	02/071450 A2		WO				
	AGG							
	AHH							
	AII							
	AJJ							

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
<i>ME</i>	AKK	Wendt et al. "Nanofabrication of photonic lattice structures in GaAs/AlGaAs," J. Vac. Sci. Technol. B 11 (6), Nov/Dec 1993, pages 2637-2640
<i>ME</i>	ALL	Gourley et al. "Optical properties of two-dimensional photonic lattices fabricated as honeycomb nanostructures in compound semiconductors," Appl. Phys. Lett. 64 (6), 7 February 1994, pages 687-689
	AMM	
	ANN	

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Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-011001	Application No. 10/724,015
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.88(b))		Applicant Alexei A. Erchak	
		Filing Date November 26, 2003	Group Art Unit 2879

**U.S. Patent Documents**

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
<i>MA</i>	AA	5,834,331	November 10, 1998	Razeghi			
<i>↓</i>	AB	6,426,515	July 30, 2002	Ishikawa			
	AC	2003/0222263	December 4, 2003	Choi			
<i>↓</i>	AD	6,091,085	July 18, 2000	Lester			
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	AG						
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	AI						
	AJ						
	AK						

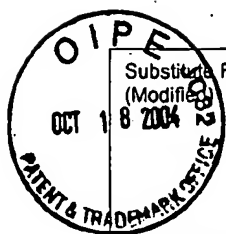
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	AL							
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	AN							
	AO							
	AP							

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	AR	
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	AT	

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(Use several sheets if necessary)

(37 CFR §1.98(b))

 Applicant
 Alexei A. Erchak

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 Group Art Unit
 2879

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
<i>ME</i>	AA	5,359,345	10/25/94	Hunter et al.			
	AB	5,631,190	05/20/97	Negley et al.			
	AC	5,724,062	03/03/98	Hunter et al.			
	AD	5,799,924	07/14/98	Krames et al.			
	AE	5,955,749	09/21/99	Joannopoulos et al.			
	AF	6,071,795	06/06/00	Cheung et al.			
	AG	6,420,242	07/16/02	Cheung et al.			
	AH	6,559,075	05/06/03	Kelly et al.			
	AI	6,410,942	06/25/02	Thibeault et al.			
	AJ	6,657,236	12/02/03	Thibeault et al.			
	AK	2003/0141507	07/31/03	Krames et al.			
	AL	5,633,527	05/27/1997	Lear			02/06/95
	AM	5,363,009	11/8/1994	Monto			08/10/92
	AN	5,073,041	12/17/1991	Rastani			11/13/90
	AO	5,426,657	06/20/1995	Vakhsoori			05/27/94
	AP	6,091,085	07/18/00	Lester			02/19/98
	AQ	6,469,324	10/22/02	Wang, Tien Yang			
	AR	6,287,882	09/11/01	Chang et al.			
	AS	5,793,062	08/11/98	Kish et al.			

Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
<i>ME</i>	AT	WO 98/14986	04/09/98	PCT				

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
<i>ME</i>	AU	W.S. Wong et al. "Damage-free separation of GaN thin films from sapphire substrates", Appl. Phys. Lett. 72 (5), February 2, 1998, pages 599-601

Examiner Signature

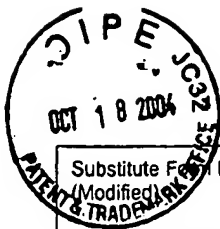
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Substitute Disclosure Form (PTO-1449)

 The PTO did not receive the following listed items(s) FOR WO 98/14986



Substitute Form PTO-1449 (Modified) PATENT & TRADEMARK OFFICE	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-011001	Application No. 10/724,015
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Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
<i>ME</i>	AV	M.K. Kelly et al. "Optical process for liftoff of Group III-nitride films", Physica Status Solidi; Rapid Research Note, November 28, 1996, 2 pages.
	AW	A. A. Erchak et al. "Enhanced coupling to vertical radiation using a two-dimensional photonic crystal in a semiconductor light-emitting diode", Appl. Phys. Lett. (78 (5), January 29, 2001, pages 563-565
	AX	P.L. Gourley et al. "Optical properties of two-dimensional photonic lattices fabricated as honeycomb nanostructures in compound semiconductors", Appl. Phys. Lett. 64(6), February 7, 1994, pages 687-689
	AY	P.L. Gourley et al. "Optical Bloch waves in a semiconductor photonic lattice", Appl. Phys. Lett. 60 (22), June 1, 1992, pages 2714-2716
	AZ	J.R. Wendt et al. "Nanofabrication of photonic lattice structures in GaAs/AlGaAs", J.Vac. Sci. Technol. B 11(6), November/December 1993, pages 2637-2640
	AAA	M. Krames et al "Introduction to the Issue on High-Efficiency Light-Emitting Diodes", IEEE Journal on selected topic in quantum electronics, Vol. 8, No. 2 March/April 2002, pages 185-188
	ABB	K. Streubel et al.. "High Brightness AlGaInP Light-Emitting Diodes", IEEE Journal on selected topic in quantum electronics, Vol. 8, No. 2, March/April 2002, pages 321-332
	ACC	M. Okai et al. "Novel method to fabricate corrugation for a $\lambda/4$ -shifted distributed feedback laser using a grating photomask", Appl. Phys. Lett. 55(5), July 31, 1989, pages 415-417
	ADD	T.L. Koch et al. "1.55- μ InGaAsP distributed feedback vapor phase transported buried heterostructure lasers", Appl. Phys. Lett. 47 (1), July 1, 1985, pages 12-14
	AEE	W.T. Tsang et al. "Semiconductor distributed feedback lasers with quantum well or superlattice grating for index or gain-coupled optical feedback", Appl. Phys. Lett. 60 (21), May 25 1992, pages 258-2582
	AFF	M. Zelsmann et al. "Seventy-fold enhancement of light extraction from a defectless photonic crystal made on silicon-on-insulator", Appl. Phys. Lett. 83 (13), September 29, 2003, pages 2542-2544
	AGG	M. Rattier et al. "Omnidirectional and compact guided light extraction from Archimedean photonic lattices", Appl. Phys. Lett. 83 (7), August 18, 2003, pages 1283-1285
	AHH	Y.-J. Lee et al. "A high-extraction-efficiency nanopatterned organic light-emitting diode", Appl. Phys. Lett. 82(21), May 26, 2003, pages 3779-3781
	AII	I. Schnitzer et al. "30% external quantum efficiency from surface textured, thin-film light-emitting diodes", Appl. Phys. Lett. 63 (18), October 18, 1993, pages 2174-2176
	AJJ	M. Boroditsky et al. "Light extraction from optically pumped light-emitting diode by thin-slab photonic crystals", Appl. Phys. Lett. 75 (8), August 23, 1999, pages 1036-1038
	AKK	L. Chen et al. "Fabrication of 50-100 nm Patterned InGaN Blue Light Emitting Heterostructures", Phys. Stat. Sol. (a), 188 (1), 2001, pages 135-138.
	ALL	I. Bulu et al. "Highly directive radiation from sources embedded inside photonic crystals", Appl. Phys. Lett. 83 (16), October 20, 2003, pages 3263-3265
	AMM	T. N. Oder et al. "III-nitride photonic crystals", Appl. Phys. Lett. 83 (6), August 11, 2003, pages 1231-1233
<i>✓</i>	ANN	M.K. Kelly et al. "Optical patterning of GaN films", Appl. Phys. Lett 68 (12), September 16, 1996, pages 1749-1751

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